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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,981	04/18/2001	Zdravko Boos	GR 00 P 1760	9054
24131	7590	05/06/2004	EXAMINER	
LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480			BEHULU, ALEMAYEHU	
			ART UNIT	PAPER NUMBER
			2682	

DATE MAILED: 05/06/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/836,981

Applicant(s)

BOOS, ZDRAVKO

Examiner

Alemayehu Behulu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. Claim 4 is objected to because of the following informalities: On page 21, claim 4, the word "changover" should be changed to --changeover--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5, 881, 369).

Regarding claim 1, Dean discloses a transceiver (figure 1), comprising: a transmitting branch (figure 1, refer to the upper branch); a receiving branch (figure 1, refer to the bottom branch); a duplex unit (figure 1, number 70) connected to said transmitting branch, to said receiving branch

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and to be connected to an antenna (figure 1, number 80), said duplex unit separating said transmitting branch from said receiving branch (figure 1, number 70); a first mixer having an output and an input connected to said receiving branch (figure 1, number 110); a first local oscillator connected to said first mixer (figure 1, number 100 and 110); a receiving intermediate-frequency path connected to said output of said first mixer (figure 1, number 110), said receiving intermediate-frequency path having an intermediate-frequency in a range of 0 to 0.5 megahertz (figure 1, number 110, refer to the arrow output of the number 110 and value of 250MHz); a second mixer having an input and an output connected to said transmitting branch (figure 1, number 30); a transmitting intermediate-frequency path connected to said input of said second mixer (figure 1, number 30, refer to the arrow input to number 30) and a second local oscillator connected to said second mixer (figure 1, number 30 and 90). Regarding the claimed limitation of the transmitting intermediate-frequency path having an intermediate-frequency in a range of 180 megahertz to 200, those skilled in the art would recognize the range values are not critical since it depends on the above operating frequencies. Therefore it would have been obvious to a person of ordinary skill in the art to modify Dean (U.S. Patent No. 5, 881, 369) such that it has the above operating frequency range in order to reduce interference by using frequency range different than that of other systems.

Regarding claim 3, Dean discloses the transceiver according to claim 1, wherein said second mixer is connected to said first local oscillator (figure 1, number 30 and 100).

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Regarding claim 4, Dean discloses the transceiver according to claim 1, including a changeover switch connected to said first local oscillator, to said second local oscillator and to said second mixer (figure 1, labels S5, numbers 30 and 90).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5, 881, 369).

Regarding claim 2, with respect to the claimed limitation of the receive intermediate-frequency range, those skilled in the art would recognized that the range values are not critical since it depends on the operating transmit and receive frequencies. Therefore it would have been obvious to a person of ordinary skill in the art to modify Rapeli (U.S. Patent No. 5, 991, 605) such that it has the above operating frequency range in order to reduce interference by using frequency range different than that of other systems.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5, 881, 369) in view of Taylor (U.S. Patent No. 5, 619, 531).

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Regarding claim 5, Dean discloses the transceiver according to claim 1. However, Dean fail to disclose a third mixer connected to said second mixer; a digital-to-analog converter connected to said third mixer; and a third local oscillator connected to said third mixer. But, Taylor discloses a a third mixer (figure 1, number 24) connected to said second mixer (figure 1, number 27); a digital-to-analog converter connected to said third mixer (figure 1, number 20); and a third local oscillator connected to said third mixer (figure 1, number 21). Therefore it would have been obvious to a person of ordinary skill in the art to combine Rapeli Dean (U.S. Patent No. 5, 881, 369) with Taylor (U.S. Patent No. 5, 619, 531) in order to minimize the RF interference as suggested by Taylor.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5, 881, 369) and Taylor (U.S. Patent No. 5, 619, 531) as applied to claim 5 above, and further in view of Nakayama (U.S. Patent No. 6, 175, 746).

Regarding claim 6, Dean and Taylor disclose the transceiver according to claim 5. However, Dean and Taylor fail to disclose wherein said first local oscillator, said second local oscillator and said third local oscillator in each case have a voltage-controlled oscillator and a phase-locked loop. But, Nakayama discloses first local oscillator (see Nakayama figure 1, number 35), said second local oscillator (see Nakayama figure 1, number 34) and said third local oscillator in each case have a voltage-controlled oscillator and a phase-locked loop (see Nakayama figure 1, number 18). Therefore it would have been obvious to a person of ordinary skill in the art to combine Dean (U.S. Patent No. 5, 881, 369) and Taylor (U.S. Patent No. 5, 619, 531) with

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Nakayama (U.S. Patent No. 6, 175, 746) in order to accurately re-tune the operating frequency at each stage.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5, 881, 369) in view of Saito (U.S. Patent No. 7, 734, 970).

Regarding claim 7, Dean discloses the transceiver according to claim 1. However, Dean fails to disclose a first baseband unit connected to said receiving intermediate-frequency path and having a digital mixer which can be detuned in steps of 200 kilohertz; and a second baseband unit connected to said transmitting intermediate-frequency path and having a digital mixer which can be detuned in steps of 200 kilohertz. But, Saito discloses a first baseband unit connected to said receiving intermediate-frequency path and having a digital mixer (figure 2, number 46); and a second baseband unit connected to said transmitting intermediate-frequency path and having a digital mixer (figure 2, number 15). Regarding to the claimed limitations of detuned steps of the steps 200KHz, the limitation is not critical because the determining factor is the transmit and receive operating frequencies. Therefore it would have been obvious to a person of ordinary skill in the art to combine Dean (U.S. Patent No. 5, 881, 369) with Saito (U.S. Patent No. 7, 734, 970) in order to allow the baseband circuits to operate in desired frequencies.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5, 881, 369) as applied to claim 1 above, and further in view of Tolson (U.S. Patent No. 6, 628, 960) and Kunkel (U.S. Patent No. 6, 370, 360).

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Regarding claim 8, Dean discloses the transceiver according to claim 1. However, Dean fails to disclose the transceiver is a universal mobile telecommunications system transceiver, and said duplex unit has a frequency splitter and a switch connected to said frequency splitter. But, Tolson discloses the transceiver is a universal mobile telecommunications system transceiver (column 1, 34-56). Therefore it would have been obvious to a person of ordinary skill in the art to combine Rapeli (U.S. Patent No. 5, 991, 605) with Tolson (U.S. Patent No. 6, 628, 960) because it allows to accommodate the latest technology (3G). However, Dean and Tolson fail to disclose duplex unit has a frequency splitter and a switch connected to said frequency splitter. But, Kunkel discloses duplex unit has a frequency splitter (figure 3, number 35, column 7, lines 51-63) and a switch connected to said frequency splitter (figure 3, number 51, column 7, lines 51-63). Therefore it would have been obvious to a person of ordinary skill in the art to combine Dean (U.S. Patent No. 5, 881, 369) and Tolson (U.S. Patent No. 6, 628, 960) with Kunkel (U.S. Patent No. 6, 370, 360) in order to reduce signal interference between the transmitter and receiver.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alemayehu Behulu whose telephone number is 703-305-4828. The examiner can normally be reached on 8 AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

*Nguyent Vo*  
4-27-2004

**NGUYENT.VO  
PRIMARY EXAMINER**